

What is claimed is:

1. A display system for a measuring system which determines the positions in space of predetermined points on an object and measures distances between points of selected pairs of such points, the display system comprising:

a storage device storing a library of information relating to objects to be measured including standard distances between points of predetermined pairs of points on such objects and/or coordinates of points which can be used to calculate such standard distances,

a display device, and

a processor operating under stored program control and coupled to the storage device and to the display device and comparing measured distances between points of selected pairs of points on an object with corresponding standard distances,

the program including a display routine for causing display of a graphical representation of the object being measured and predetermined points thereon and, for each selected pair of such points, a line between the points,

the routine causing a display for each such line of an indication as to whether or not the measured distance represented by the line is within predetermined tolerance limits for the corresponding standard distance.

2. The system of claim 1, wherein the display is a color display and the display routine includes a subroutine for changing the color of the displayed line depending upon whether or not the measured distance represented thereby is within predetermined tolerance limits.

3. The apparatus of claim 2, wherein the subroutine includes displaying the line in a first color if the measured distance is within tolerance limits, and in a second color if the measured distances are shorter than the corresponding standard distance by more than the

tolerance limits, and in a third color if the measured distance is greater than the corresponding standard distance by more than the tolerance limits.

4. The system of claim 1, wherein the display routine includes a subroutine for displaying simultaneously with the graphical representation an alphanumeric table listing displayed pairs of points, standard and measured distances between the points of such pairs and the differences between measured and standard distances.

5. The system of claim 4, wherein the display is a color display, and the subroutine displays the table information in accordance with a color code utilizing a first color for differences within tolerance limits, a second color for differences which are less than a lower tolerance limit and a third color for differences which are higher than an upper tolerance limit.

6. The system of claim 1, wherein the object being measured is a vehicle body.

7. A method of displaying data in a measuring system which determines the positions in space of predetermined points on an object and measures distances between points of selected pairs of such points, the method comprising:

storing a library of information relating to objects to be measured including standard distances between points of predetermined pairs of points on such objects and/or coordinates of points which can be used to calculate such standard distances,

comparing measured distances between points of pairs of points on the object with corresponding standard distances from the library,

displaying on a display screen a graphical representation of the object being measured and predetermined points thereon,

for each of selected pairs of displayed points displaying a line between the points of the pair, and

displaying in association with each such line an indication as to whether or not the measured distance represented by the line is within predetermined tolerance limits for the corresponding standard distance.

8. The method of claim 7, wherein the display is a color display, and the displaying of an indication of whether or not a measured distance is within tolerance limits for the corresponding standard distance includes changing the color of the displayed line depending upon whether or not the measured distances represented thereby is within predetermined tolerance.

9. The method of claim 8, wherein changing the color of the displayed line includes displaying the line in a first color if the measured distance is within tolerance limits, and in a second color if the measured distance is shorter than the corresponding standard distance by more than the tolerance limits, and in a third color if the measured distance is greater than the corresponding standard distance by more than the tolerance limits.

10. The method of claim 7, and further comprising displaying simultaneously with the graphical representation an alphanumeric table listing displayed pairs of points, standard and measured distances between the points of such pairs and the differences between measured and standard distances.

11. The method of claim 10, wherein the display is a color display and the alphanumeric table includes displaying the table information in accordance with a color code utilizing a first color for differences within tolerance limits, a second color for differences which are less than a lower tolerance limit and a third color for differences which are higher than an upper tolerance limit.

12. The method of claim 7, wherein the object being measured is a vehicle body.

13. A display system for a measuring system which determines the positions in space of predetermined points on an object and measures distances between points of selected pairs of such points, the display system comprising:

storage means storing a library of information relating to objects to be measured including standard distances between points of predetermined pairs of points on such objects and/or coordinates of points which can be used to calculate such standard distances,

a display means, and

processor means operating under stored program control and coupled to the storage means and to the display means and comparing measured distances between points of selected pairs of points on an object with corresponding standard distances,

the program including a routine for causing display of a graphical representation of the object being measured and predetermined points thereon and, for each selected pair of such points, a line between the points,

the routine causing a display for each such line of an indication as to whether or not the measured distance represented by the line is within predetermined tolerance limits for the corresponding standard distance.